Remarks

In view of the above amendments and the following remarks, reconsideration of the rejections and further examination are requested.

A number of editorial amendments have been made to the specification and abstract. It is submitted that no new matter has been added to the application via such amendments.

Further, claims 9-18 have been amended to make a number editorial revisions thereto. These revisions have been made to place the claims in better U.S. form. None of these amendments have been made to narrow the scope of protection of the claims, or to address issues related to patentability, and therefore, these amendments should not be construed as limiting the scope of equivalents of the claimed features offered by the Doctrine of Equivalents.

Additionally, claim 18 has been amended so as to depend only from claims 9-17.

It is also noted that withdrawn claims 1-8 have been canceled without prejudice or disclaimer to the subject matter contained therein.

Claims 11-13, 15 and 17 have been rejected under 35 U.S.C. §102(e) as being anticipated by Shen (US 6,781,584). Claims 9, 10 and 14-18 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Shen in view of Cake (US 6,952,655).

The above-mentioned rejections are respectfully traversed and submitted to be inapplicable to the claims for the following reasons.

Claim 9 is patentable over the combination of Shen and Cake, since claim 9 recites a waveform editing program including a first frame definition function of defining an editing area frame for editing a waveform; an in-frame point movement function of moving an in-frame point according to an amount of scaling or transformation of the editing area frame with a positional relation between the editing area frame and the in-frame point held when a scaling or transformation operation of the editing area frame defined by the first frame definition function is detected; and a first time-series waveform generation function of generating a time-series waveform from the in-frame point moved by the in-frame point movement function and other points of the waveform. The combination of Shen and Cake fails to disclose or suggest these features of claim 9.

Shen discloses a system that is capable of recapturing a portion of a displayed waveform without losing the remainder of the originally displayed waveform. The system includes a waveform display module 12 that communicates with a test site to obtain data for display on a

display 13. The display 13 also includes a menu bar 73 including a button 75 that is used to recapture a selected (delineated) portion of a waveform in a logic analyzer mode and a button 76 that is used to recapture a selected portion of a waveform in a scope mode. During the recapture in either of these modes, a vertical cursor 78 and a vertical cursor 79 are used to delineate for recapture a portion of each of the selected signal waveforms. Once the portion for recapture is selected, selecting the button 75 results in immediate recapture of the selected portions of the waveforms in the logic analyzer mode at a preselected timing resolution, and selecting the button 76 results in immediate recapture of the selected portions of the waveforms in the scope mode at a preselected timing resolution and a preselected voltage resolution. The recaptured data is then displayed by the waveform display module 12 on the display 13 along with the remaining portions of the waveforms that were originally captured. (See column 3, lines 28-45; column 7, lines 39-65; column 9, lines 4-35; and Figures 1 and 3).

Based on the above discussion, it is apparent that the system of Shen is operable to allow the recapture of a portion of a waveform by allowing a user to select the portion of the waveform with the vertical cursors 78 and 79, and then display the recaptured portion of the waveform with the remainder of the original waveform on the display 13. However, there is no disclosure or suggestion in Shen that once the vertical cursors 78 and 79 are used to delineate the portion of the waveform for recapture the system is capable of moving a point within the delineated portion according to an amount of scaling or transformation of the delineated portion with a positional relation between the delineated portion and the point held when a scaling or transformation operation of the delineated portion is detected.

Further, Shen also fails to disclose or suggest that the system is capable of generating a time-series waveform from the point moved by an in-frame point movement function and other points of the waveform. Instead, Shen only discloses that the system allows for the recapture of a portion of a waveform delineated by the vertical cursors 78 and 79. There is no disclosure or suggestion that the system allows for any functions which correspond to the claimed in-frame point movement function and first time-series waveform generation function as recited in claim 9. As a result, Cake must disclose or suggest these features in order for the combination of Shen and Cake to render claim 9 obvious.

Regarding Cake, it discloses a system for defining, configuring and performing a custom processing function in a digital oscilloscope. The system is disclosed as being capable of

performing custom data processing using any standard programming language. However, Cake fails to provide the specifics of the custom data processing. Cake does disclose that modern oscilloscopes are capable of displaying many type of informational objects on a screen and that some of the types of information that can be displayed include axis labels and/or descriptors to indicate the scale of waveforms displayed on the oscilloscope. (See column 2, lines 65 – column 3, line 64).

In the rejection, it appears the disclosure in Cake that oscilloscopes are capable of displaying labels and/or descriptors which indicate the scale of a waveform is relied upon as disclosing the above-discussed features lacking from Shen. However, it is clear that claimed in-frame point movement function of moving the in-frame point according to the amount of scaling or transformation of the editing area frame with the positional relation between the editing area frame and the in-frame point held when a scaling or transformation operation of the editing area frame defined by a first frame definition function is detected, and the first time-series waveform generation function of generating the time-series waveform from the in-frame point moved by the in-frame point movement function and other points of the waveform are not rendered obvious by the mere indication that the scale of a waveform can be displayed on an oscilloscope. Further, the discussion in Cake that custom processing functions for an oscilloscope can be created does not provide any disclosure or suggested of the claimed functions. Therefore, it is apparent that Cake fails to address the deficiencies of Shen. As a result, the combination of Shen and Cake fails to render the present invention as recited in claim 9 obvious.

Claim 11 is patentable over Shen and Cake, since claim 11 recites a waveform editing program including a second frame definition function of defining a copy area frame for copying a waveform; an in-frame waveform copy function of copying a waveform in the copy area frame defined by the second frame definition function; and a second time-series waveform generation function of generating a time-series waveform from an in-frame point and other points of the waveform when a location definition operation of the in-frame waveform copied by the in-frame waveform copy function is detected. Neither Shen, nor Cake, discloses or suggests these features of claim 11.

As discussed above, the system of Shen includes the vertical cursors 78 and 79 that are used to delineate a portion of a signal waveform for recapture. In other words, the portion of the waveform defined by the vertical cursors 78 and 79 is replaced with a corresponding recaptured

portion of the waveform. Based on this disclosure, it is apparent that the vertical cursors 78 and 79 define a portion of a waveform for replacement. On the other hand, the above discussed features of claim 11 relate to copying a waveform that has been defined by a copy area frame. Clearly Shen fails to disclose or suggest these features of claim 11.

Cake discloses a system whereby custom processing functions may be created for use in an oscilloscope. However, it is clear that Cake also fails to disclose or suggest the above-discussed features of claim 11.

Claim 14 is patentable over the combination of Shen and Cake, since claim 14 recites a waveform editing program including a binary waveform generation function of generating a binary waveform based on prescribed data and/or a prescribed input operation through an input device; a third frame definition function of defining an editing area frame for editing the binary waveform generated by the binary waveform generation function; and an in-frame cycle modification function of modifying a binary waveform cycle in the editing area frame according to an amount of scaling of the editing area frame when a scaling operation of the editing area frame defined by the third frame definition function is detected. The combination of Shen and Cake fails to disclose or suggest these features of claim 14.

As discussed above with regard to claim 9 and admitted in the rejection, the system of Shen does not disclose or suggest the use of any scaling operation with respect to the delineated portion of the waveform. As a result, Cake is relied upon as disclosing this feature.

As also discussed above, Cake discloses in general terms the ability to create custom processing functions for oscilloscopes and also mentions that oscilloscopes can display labels and/or descriptors to indicate the scale of waveforms. However, it is clear that neither of these references discloses or suggests the claimed in-frame cycle modification function of modifying the binary waveform cycle in the editing area frame according to the amount of scaling of the editing area frame when the scaling operation of the editing area frame defined by the third frame definition function is detected. As a result, the combination of Shen and Cake fails to render claim 14 obvious.

Claim 15 is patentable over Shen and Cake, since claim 15 recites a waveform editing program including a third time-series waveform generation function of regenerating a time-series waveform from a moved point constituting a waveform and other points when a movement

operation of the point is detected. Neither Shen, nor Cake, discloses or suggests this feature of claim 15.

As discussed above, the system of Shen is capable of delineating a portion of a waveform with the vertical cursors 78 and 79 for replacement. However, there is no disclosure or suggestion that the system of Shen is capable of moving any points within the delineated portion of the waveform. As a result, Shen fails to disclose or suggest this feature of claim 15.

Further, while Cake discloses the possibility of generating custom processing functions for an oscilloscope, it also fails to disclose or suggest this feature of claim 15.

Claim 17 is patentable over Shen and Cake, since claim 17 recites a waveform editing program including a coordinate axis resolution unit selection function of enabling selections of coordinate axis resolution units; and a coordinate data acquisition function of acquiring values of coordinate data of a waveform displayed on a screen in the coordinate axis resolution units selected by the coordinate axis resolution unit selection function. Neither Shen, nor Cake, discloses or suggests these features of claim 17.

Regarding Shen, it does disclose that when the system is performing the recapture in the logic analyzer mode, the recapture is performed at a preselected timing resolution. Further, when the system is performing the recapture in the scope mode, the recapture is performed at a preselected timing resolution and a preselected voltage resolution. (See column 9, lines 13-19).

However, Shen fails to disclose or suggest a waveform editing program including a coordinate axis resolution unit selection function of enabling selections of coordinate axis resolution units.

Further, it is apparent that Cake also fails to disclose or suggest the above-discussed feature of claim 17.

Because of the above-mentioned distinctions, it is believed clear that claims 9-18 are patentable over references relied upon in the rejections. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 9-18. Therefore, it is submitted that claims 9-18 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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